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ABSTRACT

UNDERSTANDING HOW THE AMERICAN INDIAN PERCEIVES THE HEALTH AND MEDICAL PROGRAMS OF THE ANGLO CULTURE IS THE KEY TO THE UNITED STATES PUBLIC HEALTH SERVICE IN BEING ABLE TO RAISE THE INDIAN'S LEVEL OF HEALTH TO THAT OF THE GENERAL POPULATION. VAST DIFFERENCES BETWEEN THE AMERICAN INDIAN, AS REPRESENTED BY THE NAVAJO, AND THE NON-INDIAN ARE FOUND IN LANGUAGE, CUSTOMS, CULTURAL PATTERNS, HEALTH CONCEPTS, AND SOCIAL ORGANIZATIONS; THEREFORE, OVERCOMING CULTURAL DIFFERENCES AS WELL AS INCREASING HEALTH FACILITIES WILL BE NECESSARY. A LONG-TERM HEALTH EDUCATION CAMPAIGN IN SCHOOLS AND COMMUNITY IS ESSENTIAL BEFORE THE NAVAJO INDIVIDUAL WILL BE ABLE TO PERCEIVE ANGLO MEDICINE IN A MANNER WHICH WILL CONTRIBUTE TO THE MAINTENANCE OF HIS OWN HEALTH. (AN)

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NAVAJO PERCEPTION OF ANGLO MEDICINE

Paul R. Mico, M.P.H.

Navajo Health Education Project
P.H.S. Indian Hospital
Tuba City, Arizona
April 16, 1962

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Table of Contents

	Pages
Introduction	1 - 3
The Navajo Health Education Project	3 - 6
Perception	6 - 8
Navajo Cultural Perception of Health and Sickness	8 - 10
Some Definitive Navajo Percepts	10 - 27
A. The Perceived Role of Anglo Medicine	11 - 13
B. Perception of Health and Medical Facilities and Programs	13 - 18
C. Perception of Role and Function of Public Health Personnel	18 - 23
D. Disease Perception	23 - 25
E. Perception of Anatomy and Physiology	25 - 26
F. Some General Health Percepts	26 - 27
Some Factors Facilitating Change in Navajo Perception.	27 - 31
Some Factors Inhibiting Change in Navajo Perception ..	31 - 35
Conclusions	35 - 37

List of Tables

Table I. Literal translations of Navajo words and phrases used to describe selected public health facilities, equipment, programs and activities. Navajo Health Education Project, P.H.S. Indian Hospital, Tuba City, Arizona. April 16, 1962..... 38

Table of Contents, continued

Table II. Literal translations of Navajo words and phrases used to describe selected public health personnel positions. Navajo Health Education Project, P.H.S. Indian Hospital, Tuba City, Arizona. April 16, 1962 41

Table III. Literal translations of Navajo words and phrases used to describe selected diseases. Navajo Health Education Project, P.H.S. Indian Hospital, Tuba City, Arizona. April 16, 1962..... 44

Table IV. Literal translations of Navajo words and phrases used to describe selected anatomical and physiological bones, organs and systems. Navajo Health Education Project, P.H.S. Indian Hospital, Tuba City, Arizona. April 16, 1962..... 47

Table V. Literal translation of Navajo words and phrases used to describe selected general health terms. Navajo Health Education Project, P.H.S. Indian Hospital, Tuba City, Arizona. April 16, 1962..... 50

Bibliography ..... 52 - 53

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PHS Indian Hospital
Tuba City, Arizona
April 16, 1962

NAVAJO PERCEPTION OF ANGLO HEALTH AND MEDICINE**

Paul R. Mico, M.P.H.[1]

Introduction. The United States Public Health Service, Division of Indian Health, has the responsibility for raising the level of the health of American Indians to that of the general population. It discharges this responsibility by providing general and specialized medical care services through hospitals and clinics and by carrying out community health programs among the various tribal groups.

** This paper is a product of the Navajo Health Education Project, which is being carried out by the University of California School of Public Health, under a contract with the Health Education Branch, Division of Indian Health, U. S. Public Health Service, Department of Health, Education, and Welfare. The author is a member of the University staff working as the Project's health educator in the Tuba City Service Unit, PHS Indian Hospital, Tuba City, Arizona.

1 The author wishes to acknowledge the assistance of the following, who were instrumental in the literal translation of the various Navajo terms used in this paper: Mr. Dan C. Vicenti, Community Worker (Health); Mr. Dennis Parker, Interpreter to the Project Anthropologist; and Mrs. Rosemary J. Goldtooth, Hospital Health Education Aide. Mr. Vicenti and Mrs. Goldtooth are employees of the Division at the Tuba City Service Unit. The author also wishes to acknowledge the assistance of Dr. Jerrold E. Levy, Project Anthropologist, who gave many valuable suggestions in the organization and presentation of the data.

Many problems must be resolved if the responsibility is to be discharged effectively. Dr. James R. Shaw,[2] Chief of the Division of Indian Health, summarizes these:

> "We are faced with the problem of improving the health of the American Indians from the present low status to a level more nearly in line with that of the country as a whole. This cannot be accomplished alone by increasing hospital and clinic facilities or by enlarging the health staffs. There are generally vast differences between Indians and non-Indians in language, customs, cultural patterns, health concepts and social organization. The trend toward integration increases the need for interpretation of services and health practices. Preventive health practices, to be effective, must be presented in such ways as to assure acceptance and understanding by the Indian people, who themselves comprise many tribal groups with variations in customs and beliefs and different degrees of acculturation.
>
> "This requires an educational and anthropological approach to the Indians and to staff which will assure an adaptation of modern public health and medical procedures and a valid cross-cultural communication of ideas..."

Effective adaptation of programs and valid cross-cultural communication of ideas require a working understanding of how the Indian perceive the program and ideas. All health and medical workers should have this understanding, but it is the professional obligation of health education personnel, who are

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[2] Correspondence of March 1, 1955. From James R. Shaw, M.D., then Chief, Branch of Health, Bureau of Indian Affairs, to Dr. Thomas N. Barrows, Associate Director, University Extension, University of California. Later duplicated and distributed. To be found in the files of the Health Education Branch, Division of Indian Health, Navajo Health Education Project.

invariably entrusted with the responsibility for organizing the communication potential of the health agency, to remain especially sensitive to the perceptions of the people with whom they are working.

This paper reports on the perceptions which a recipient culture, the Navajo, has of the health and medical programs being carried out by the donor Anglo culture, as represented by the United States Public Health Service. The data was collected during the nearly three years of service-oriented research activities of the Navajo Health Education Project, Phase Two.

The Navajo Health Education Project. The Navajo Indian Reservation is the largest in the United States, covering 25,000 square miles of land located predominantly in the northeastern part of the State of Arizona, as well as in southeastern Utah and northwestern New Mexico (1, p. 1). The population is presently estimated at 93,000.

The responsibility for the public health and medical programs carried out has rested primarily with the Division of Indian Health ever since it was transferred to this agency from the Bureau of Indian Affairs in 1955. High death and disease rates, particularly among infants and young children, caused by enteric, respiratory and other communicable diseases and by poor environmental sanitation practices, are the problems toward which the greatest program priorities have been focussed (2, p. 86-98; 3, p. 42-50). These problems are considered amenable to the educational approach.

In review, the Navajo Health Education Project has been a two-phase field operation. Phase One was in existence from 1955 to 1959 and was headquartered at Window Rock, Arizona, which is the Field Office[3] of the Division for the Reservation. It had as its purposes the development of a Reservation-wide program of health education activities. This included the recruiting and training of professional-level Community Workers (Health) and sub-professional Community Health Education Aide, who were then placed on duty at various Service Units throughout the Reservation.

Phase Two was set up as a three-year operation, beginning on September 1, 1959 and ending on June 30, 1962. Its purpose has been to construct a framework of highly intensified health education activities, performed at the local level, which would contribute to the goals of the Division as well as to the health education program and research interests of the School of Public Health. Its headquarters was relocated from the Window Rock Field Office to the Tuba City Service Unit. This is comparable to moving from a state to a county level.

The Tuba City Service Unit is one of eight on the Reservation. It occupies 4,404 square miles of the westernmost part

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3 The various administrative levels of the Division of Indian Health, with respect to the Project, are: Central Office, Washington, D. C.; Area Office, Albuquerque; Field Office, Window Rock; Service Unit, Tuba City. The Service Unit is the "local level" in the structure.

of the Reservation and has a population estimated by P.H.S. at 9,000, although estimates from other sources vary from 6,000 to 15,000. There is a 75-bed general medical care hospital, which is accredited, and a field health program[4] with dental, health education and sanitation services. The majority of the adult Navajo population has had little or no formal education and cannot speak English.

The Phase Two Project has been service-oriented. The health education activities were developed as an integral part of the health and medical services offered to the Navajo. Research was conducted concurrently, along lines that would increase understanding of Navajo health behavior and bring to light factors which may facilitate or block the acceptance of the health and medical services. Three focal points were identified for study. One was the Hospital, in which the health education opportunities in an Indian hospital setting could be explored. Another was Health Opinion Leadership, on the premise that individuals, Navajo or non-Navajo, who influence the Navajo with respect to health attitudes, motivation and behavior, could be identified and consequently educated to contribute significantly to the goals of the program. And the third was the Navajo Community, on the assumption that Navajo people, who have

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[4] For the most part, the Field Health program was without full-time medical direction or public health nursing services during the Phase Two experience.

an adequate understanding of the preventable factors contributing to their disease and disability problems, and of the resources available to them, will develop desirable individual practices and participate in group activities in order to prevent disease and maintain a higher level of personal health.

Co-Directors of the Project are William Griffiths, Ph. D., and Beryl J. Roberts, Dr. P.H., Professor and Associate Professor of Public Health at the School of Public Health in Berkeley. Dr. Roberts is the Phase Two Project administrator and Elizabeth W. Clark, M.P.H., is the Coordinator, both persons having offices at the School. The field staff at Tuba City is composed of Jerrold E. Levy, Ph. D., social anthropologist, and the author.

Perception. Perception is the process of being consciously or subconsciously aware of the objects and events which enter into the experience field of the individual, reorganized mentally to meet his social and emotional needs. Knutson (4, p. 1706) says that our perceptions are our sole means for maintaining an awareness of ourselves and other things. They serve us in filtering out things of immediate importance to us, and bringing them into meaningful focus. What seems unimportant or unchanged tends to be ignored.

Individuals, exposed to the same experiences, frequently end up with different perceptions of what they have experienced. Numerous studies and experiments in individual and group behavior bear out the fact that personal needs, interests, values, anxieties and fears of the individual will influence his

selection of what he wants to perceive of that which is perceptible. Knutson says that each of us learns to perceive one world with ourself as the center, that we can only share it with others through communication to the extent that their "private worlds" overlap with ours (4, p. 1707). This helps to explain why we often have difficulty in understanding each other.

Individuals, then, will select what they want to perceive. Postman and his associates (5, p. 381-2) carried out some studies to explain this factor of selectivity of perception. They conclude that there are three basic adaptive processes that operate in perception: Once a percept is selected, it may become accentuated, with certain features emphasized, and it may become fixed, in the sense that it is retained with persistence. They further propose that our value orientation acts as a selective sensitizer for the things we want to perceive, while creating a perceptual defense for things we do not want to perceive.

Apart from individual differences in perception, the forces of society and culture are major determinents in shaping the prevailing values of groups of people. Different societies and cultures have differences in values, and these differences are of significance to those who are of one and who must work with or relate to another.

According to Hartley and Hartley (6, p. 226, 247), we learn to perceive ourselves and the world about us in certain specific ways as a part of the process of socialization. We must learn to perceive objects and events as our fellow men do

in order to communicate with them about our experiences and to understand their communications, for without communications of some kind, group membership is not possible. The process of perception is susceptible to social influences and in turn largely determines social behavior.

Leighton and Kluckholm, in their Children of The People (7, p. 39-42), make the important point that the process of learning begins early in the Navajo way of life and has long-lasting influences.

> "Over and above the learning of acceptable behavior, which takes place during the first six years of life, learning of a less tangible but equally important kind proceeds. It is sometimes forgotten that a child's education does not consist solely in the acquiring of skills or knowledge. If the child is to be at home in his society, he must also understand and accept the system of values by which life events take on meaning for those around him. Probably by the time the Navajo Child is six months old typically Navajo conceptions of life have begun to permeate and to attain a sway which will last forever."

Navajo Cultural Perception of Health and Sickness. Before an analysis can be made of how the Navajo perceives Anglo medicine, an understanding of how he perceives health and sickness in his own culture is in order.

For him health is part of a correct relationship between man and his supernatural environment, the world around him, and his fellow man. A precise, prescribed behaviour must be followed if the correct relationship is to be maintained, which in turn guarantees spiritual, social and physical well-being insofar as possible in the Navajo's complex and dangerous

universe (8, p. 2-3). "Well-being" infers "good and beauty, or harmony," which describes the balance and perfect functioning of all parts plus the exalted feeling which accompanies this desired state. Whatever is not in this desired state may be called sickness, whether it is disease in the physical or mental sense or is a disturbance in the physical or social environment.

Thus it is that disease is perceived by the Navajo as a state of disharmony caused by a transgression of the prescribed behavior or by witchcraft. A specific diagnosis of the sickness is made by a native diagnostician, or hand-trembler, who suggests the kind of "sing" or ceremony that must be performed if the patient is to be cured. The family then contracts for the services of the hatathli, known more commonly as the "singer" or medicine man, who knows how to perform the required ceremony. Most Navajos put great trust in the punctilious ritualistic performance of the hatathli. In his capacity at a ceremonial, the hatathli is more than mortal. He at times becomes identified with the gods, when telling the patient that all is well.

The Navajo ceremony (1, p. 16) is a combination of many elements: the medicine bundle with its sacred content; prayer sticks made of carefully selected wood and feathers; precious stones; tobacco; water collected from sacred places; a tiny piece of cotton string; song with lyrical and musical complexities; sand painting with intricate color; directional and impressionistic symbols; prayers, with stress on order and rhythmic unity;

plants with supernatural qualities, deified and personified; body and finger painting; sweating and emetics with purifying functions. It is the selection of these and other elements, and their orderly combination into a unit, which makes the chant or ceremony effective. Family, relatives and friends all participate, in ceremonies which may last from one to nine nights, depending upon the complexity of the cure to be wrought, to make the patient feel that his recovery is of utmost importance and concern to those who love and need him.

Some Definitive Navajo Percepts. The experience of public health personnel, working in the hospital and field health programs on the Navajo Indian Reservation, indicate that differences in how the Navajo perceive the programs results all too frequently in the creation of imposing barriers to their uses of the services offered. Also, a lack of understanding of how the Navajo do perceive the programs often inhibits the effectiveness of public health personnel in delivering services to the Navajo.

For ease of discussion, the presentation of Navajo perception of Anglo medicine,[5] which follows, will be classified by certain general categories.

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[5] Refers to the philosophy and concepts of "western medicine" as practiced in the dominant Anglo culture, represented by the United States Public Health Service. When the term Anglo medicine is used, it will refer to both the clinical and field health programs.

A. The Perceived Role of Anglo Medicine. Anglo or "Western Medicine," as such, whether it is practiced by the Public Health Service or by private practitioners, missionaries and/or faith-healers and charlatans, is known to the Navajo as Bilagaana be' 'azee' or "White Man's Medicine."

Levy (8) concludes that the traditional Navajo seeks "White Man's Medicine" not to be cured but to obtain relief from painful symptoms. Curing is perceived as obtainable only by an elaborate healing ritual performed by the medicine man, as shown earlier. Symptomatic relief of pain or discomfort, pending the ceremonial cure, may be obtained from Anglo medical practitioners, Navajo herbalists and/or Hopi Indian medicine men: all are perceived as having equal role and function, that of providing relief from painful symptoms.

Shots and X-rays are the two most salient features of Anglo medicine. They are perceived as almost assuring relief from painful symptoms.

The implications of these perceptions are obvious. Patients whose symptoms are alleviated quickly regard the service as good; those who face long periods of treatment may become disgruntled and go to another perceived source of symptomatic relief, thereby breaking the continuity of their previous treatment.

Physicians who are new to the Reservation often have a difficult time remaining calm in the face of the frequent requests for shots and X-rays, whether they are needed or not. Problems are created by patients who are brought to the hospital in serious condition, whose treatments were delayed because of the precious time used in trying native diagnostic and curative procedures before turning to Anglo medicine. Similarly, problems are created by the families of patients who want to take them out of the hospital after a short period of treatment, for treatment elsewhere, because they feel that the patients have not shown improvement. Also, hospitalized patients, frequently in serious condition, may want to go home to have a curing "sing" performed at a time when the interruption of medical care may be fatal.

Even when symptoms are alleviated problems may be created, especially when treatment has to be maintained. Patients may quit returning to the clinics for the continuation of check-ups and treatments once they begin feeling better. Also, ledges and shelves within the hogans, traditional dwelling of the Navajo, may be cluttered with accumulations of pills and drugs which were no longer taken once the patients began feeling well.

In one respect, the motivational drive of the Navajo for symptomatic relief makes him susceptible to Anglo "charlatans and faith-healers," although this particular

trait is not well known as yet. In instances when Christian faith-healers have received tribal permission to practice at Tuba City and elsewhere on the Reservation, patients left hospital and sanatoria against medical advice to join the throngs who sought guaranteed "cures."

B. Perception of Health and Medical Facilities and Programs.

"Words are perception," says Knutson (9, p. 6), and the literal translations of Navajo words and phrases for Anglo medical terminology provide significant insights as to their perceptions. There are few Navajo words which correspond directly to Anglo medical terms, therefore the words and phrases which have evolved or have been developed are descriptive of the roles and functions as they have been perceived.

Tables I through V, at the end of this paper, contain the listings of selected Anglo terms, their equivalent Navajo words, and the literal English translation of the Navajo terms used.

Table I contains terms relating to facilities and programs.

Facilities are perceived in terms of their relationship to "medicine:" the hospital is "(where) medicine is made;" the out-patient clinic waiting room is "where one sits awaiting application of medicine;" and the out-patient clinic is "where medicine is applied."

Rooms and places within the hospital are perceived in terms of their purpose: the administrative offices are "where paper (letters) are made;" the delivery room is the "bearing place;" the inpatient wards are "where the sick lie;" the laboratory is "where blood is collected;" the morgue is the "cutting-for-cause-of-death place;" the surgical suite is the "cutting place;" and the X-raying room is "where light is made to penetrate (one's body)."

The Clinical thermometer is an "object customarily stuck in the mouth," and the stethoscope is an "object placed on different parts of the body (moved about)." Blood transfusion is perceived as "replenishing (refilling) with blood," intra-venous feeding is "food entering the body with rope-like object," and injections or shots are seen as "(bodily) punctures given."

When the Navajo goes to a native diagnostician, he expects to be told what is wrong with him after the hand-trembling ritual has been performed. When he comes to the Anglo diagnostician, he finds that he is being asked what is wrong. The process of obtaining a patient-history can be time-consuming. The Navajo does not perceive the connection between a disease itself and the symptoms or time elements which the physician regards as important. He may, in fact, link the cause of his present symptoms to a years-past event of falling from a horse or being contaminated by a bolt of lightening, which may have no

bearing on the disease in the eyes of the physician. He does not yet perceive the need for the detailed records which are kept or for the many questions asked, which may seem irrelevant to him.

Patients less conditioned to contacts with Anglo medicine undergo experiences which may be extremely discomforting to their perceptual framework. They don't understand why they have to wait so long to be seen in the outpatient clinic. Many actually expect medicine to come out of the thermometers when they are placed in their mouths. They don't understand why their pulse is felt or why their bodies are manipulated by hands. The women are very modest when it comes to pelvic and breast examinations, perceiving the doctor as a strange man and not a medical person in this respect. As inpatients, they are treated impersonally; this may be their first experience at sleeping in a bed; they find "white man's food" to be tasteless; and they don't understand why they have to be segregated from other patients, if they have tuberculosis, or why people have to wear masks and gowns when close to them. Many women who come to the hospital to have their babies there for the first time may precipitate in bed either because they are shy in the new situation or because they do not understand that they are to go to a delivery room, or because they do not respond verbally to labor pains in the manner expected of non-Indians by nurses, until it is too late.

The Navajo's fear of the spirit of the dead, or Chindi, is well known. The hospital is usually perceived as being contaminated by the chindi, since patients die there on occasion. Although this fear is not expressed verbally, except in unusual situations, it is often a factor in inhibiting patients from going to the hospital for needed care or in motivating them to want to leave before the treatment course has been completed. Occasionally, a hatathli has been called upon by a patient's family to perform a ceremony for cleansing a ward of chindi, so that a patient would stay under hospital care. Navajo employees are very reluctant to watch an autopsy performed and will often tease each other about the autopsy room. They will avoid walking past the autopsy room, if possible, especially after dark.

The Navajo have a fear of surgery, perceiving the process as similar to the "butchering of sheep." In cases of elective surgery, wherein the patient has the option of deciding to have surgery at an early or a later date, the surgery is usually put off until it becomes a serious or an emergency case. This usually results in a more complicated task for the surgeon.

The Navajo has a fear of giving blood transfusions, also, since it is believed that if the recipient of the blood dies, so will the donor. However, this percept is not fixed too persistently within the perceptual framework,

for many prisoners housed temporarily in the local jail will donate blood when time is taken from their sentences for so doing.

Navajo women, on the other hand, prefer to have their infants born in the hospital rather than at home, as had been the widespread practice up until about five years ago. This is because the hospital is perceived as a "safe place" to have babies. This percept came to light as a result of a Project research activity carried out to determine the effectiveness of various educational methods in persuading mothers of newborn infants to return to the postnatal clinic and to bring their infants to the well-baby clinics.

In the field health program, "field clinics" are designated by the same term as is used for "shots," which indicates that they are perceived in terms of the immunizations dispensed at them. It has been difficult for the Navajo to understand why symptomatic relief (treatment) can be obtained at the out-patient clinic but not at field clinics, which is closer to home (the policy of field clinics was for well-baby care only).

Home visiting by public health nursing personnel is seen as "going from home to home informally."

One of the major field health programs is in the area of water development, being carried out by sanitation. One activity which has high priority concerns the sale and

use of pre-packaged Individual Home Water Storage Units. The program provides for an outside stand or platform capable of holding three thirty-gallon barrels, which would be connected to a sink unit inside the home by a pipe running through the wall of the dwelling. The purpose of the program is to provide an acceptable method for the hauling and home storage of potable water for those families who must haul their domestic water. The Navajo term for the program means "water barrel sale"(10).

The outdoor latrine, another program pushed by the Sanitation Branch, when it has time, is known as the "place where one walks into privacy." Indoor toilets or lavatories are seen as "inside private walk insides."

An evaluation experience (11) conducted on a flip chart developed for the purpose of encouraging the Navajo to use dried milk as a food, revealed that the Navajo regard foods as being either "strong" or "weak." It was found that milk generally is regarded as a "strong" food for babies but "weak" for children and adults. Moreover, dried milk is an unfamiliar product having negative connotations to the adult Navajo.

C. Perception of Role and Function of Public Health Service Personnel. Table II contains a list of selected personnel positions, with the corresponding Navajo terms and their literal translations.

Generally speaking, the Navajo accords status on the basis of several related factors: age, with perhaps gray hair and wrinkled skin; long experience and practice; residency of long standing in the community, with respect from leaders and people alike. Most of the Anglo medical personnel, needless to say, do not meet these expectations. They are usually young and well-educated but relatively inexperienced. They are usually enchanted with the Indian culture when they first arrive, gradually become disenchanted when their needs and expectations of patients are not met, and wait sometimes impatiently for their two-year term of duty, served in lieu of military obligations, to come to an end. Professionally, they practice excellent medicine and contribute long hours to their jobs.

In Navajo culture, the hatathli occupies the same role as does the physician in the Anglo cultures, with neither practitioner perceiving the other as having equal status across cultural lines. The physician perceives the hatathli as an untrained layman who often does more harm than good. The hatathli perceives the physician as a "medicine maker," a step lower than himself and in the same category with such other distinguished "medicine makers" as Navajo herbalists and Hopi medicine men, capable of relieving painful symptoms. There is evidence, however, that both are showing increasing respect for the skills of the others. The wise physician begins to recognize

the psychological benefits which patients receive from ceremonials and will permit, as in the case at Tuba City, the hatathli to come to the patient's bedside to perform an abbreviated ceremony. The hatathli is beginning to recognize that the physician can treat some perplexing conditions, such as tuberculosis and pneumonia, better than he and therefore is beginning to encourage his patients with these diseases to come to the hospital as soon as he recognizes their symptoms.

Interestingly enough, the Navajo does not accord a symbolic percept to the white frock, which is a familiar, physician-oriented, high status symbol in Anglo medical culture. To the inexperienced patient, a woman physician in a white frock may very likely be perceived as a nurse.

Since the hatathli specializes in certain ceremonies, which usually require years in mastering, it is easy for him to understand specialization among his Anglo counterparts. Specialists are designated in terms of their perceived functions: the medical officer in charge is the "medicine maker who is first in authority;" the surgeon is "medicine maker who cuts;" the obstetrician is "medicine maker who knows about child birth;" and the pediatrician is the "children's medicine maker," to mention a few. It is interesting to note that the Navajo perceives a difference in role function, based on whether the function is performed at Tuba City or elsewhere, in the cases of

two specialists; the ophthalmologist and the orthopedist. Special "eye clinics" and "crippled children's clinics" are held at Tuba City every three or four months. They are staffed by specialists from outside of Tuba City. Patients are screened at Tuba and then sent to a referral facility in other cities for follow-up care, if indicated. The ophthalmologist who attends the Tuba Clinic is perceived as the "medicine maker who looks at eyes," whereas the one to whom patients are referred is perceived as the "medicine maker who specializes in eyes." The orthopedist at Tuba is the "cripples' medicine maker," but is the "medicine maker who knows about bones" when patients are referred to him elsewhere.

Dentists are accorded the same "medicine maker" status as physicians, being perceived as "medicine makers who rebuild teeth," with one significant difference. Since the role of all medicine makers is to provide relief from painful symptoms, and since filling a cavity or pulling a tooth usually alleviates painful symptoms in short order, dentists are perceived as being consistently better "medicine makers" than physicians. The status of the physician varies with the degree to which his patients experience relief from pain: if he is fortunate in having patients whose diseases can be cured or symptoms relieved in one shot or so, he is regarded as "good;" if he must treat a patient on the basis of several visits or over a prolonged course, he faces problems.

Nurses are perceived as "carriers of medicine," with the implication that the medicine is on a tray or platter-like object. There is no distinction between professional level or skills of nurses, as between the registered nurse and the practical nurse. Nursing assistants, sub-professional employees who function in interpreting roles as well as assisting nurses, and who are commonly called blue girls because of their uniform, are perceived as "blue-appareled women who work in the hospital." Head nurses are "leaders of medicine carriers."

The pharmacist is a "giver of medicine;" the anesthetist is the "applier of sleep-producer;" the receptionist at the out-patient clinic, among whose tasks includes the registering of patients to be seen, is perceived as the "writer of names;" clerk-typists are "paper (letter) makers;" the clinical social worker is "one who makes helping people her (his) work;" and the X-ray technician is "one who directs lights through (the body)."

In the field health program, the sanitarian is perceived as having the imposing responsibility of being the "care-taker of water," with no distinction between the professional level sanitarian and his sub-professional aides; the public health nurse is the "carrier of medicine who visits homes;" the community worker (health) is the "teacher of care of the body;" the hospital health education aide, who issues layettes to mothers of newborn

infants as part of her work, is perceived as the "woman who issues layettes;" and Navajo-speaking employees who function in interpreting roles, are perceived as "talkers in-between" when carrying out these roles.

The Navajo's lack of perception of medical records and their importance is reflected also in the fact that there is no commonly-used term to describe the medical record library personnel. The community worker (health) at Tuba City suggests the term "one in charge of where paper (documents) are kept" to be used in developing a frame of reference for the medical record librarian.

D. Disease Perception. Table III contains the listing of terms having reference to selected diseases. In analyzing Navajo perception of disease, attention must be paid to the wide divergence which exists between the Navajo concept of disease resulting from a state of disharmony, as discussed earlier, and the Anglo concept of disease caused by bacterial or viral infection. It is usually difficult to teach the Navajo the "germ theory" because there are no corresponding words or concepts in the Navajo language to adequately explain it, and it is also difficult for the Navajo to perceive that disease and death can be caused by something so small as to be invisible to the naked eye.

The literal translations of the terms commonly used to describe disease reflect a perceptual framework based primarily on symptomatic references. Chickenpox is "those which come to the surface (of one's body)," and measles is "come to the surface (skin)." Gallbladder disease is "something (defect) on the bile" and trachoma is "something (defect) attached to the eye." Diarrhea is "stomach pain," diphtheria is "throat pain," impetigo is a "sore," mastoiditis is "pus running out of ear(s)," and whooping cough is "big cough."

Lack of understanding of anatomy is reflected in the term used for appendicitis, which is "growth from an intestine." In this instance, the appendix itself is perceived as resulting from the disease.

Pneumonia is perceived as "cold (air) entered the lungs" and tuberculosis is known as the "disappearing (heart) lung."

Table III also contains many secondary terms which are being utilized by the permanent Tuba City health education staff, composed wholly of Navajo workers. These terms more accurately describe the disease and are being introduced into the Navajo communication processes in the attempt to increase both understanding and perceptivity.

There is no term which encompasses the concept of mental illness. However, Dr. Jerrold E. Levy, who has been the Project's field anthropologist and is to remain on the Navajo Reservation as an ethnologist with the Division of Indian Health after the Project ends, has been collecting considerable data on Navajo concepts of mental health and mental illness. When this work is published, it should contribute significantly to the perceptions which the Navajo have of mental illness and its ramifications.

E. Perception of Anatomy and Physiology. Table IV contains the literal translation of terms for selected bones, organs and physiological systems. Basically, the Navajo's perception of human anatomy and physiology originates primarily from his understanding of sheep anatomy. Interpreters will frequently use the comparisons of the sheep in the education of patients, when anatomy and physiology is involved.

Navajo perception of bones is extremely elementary. The spinal column is perceived as the "top main support," obviously in reference to sheep and other four-legged animals, and ribs are "(infers) inside body." The humerus is "between arm," which infers that this bone is between the shoulder and the hand, and both the ulna and radius are "arm points," which seems logical enough. Likewise,

the femur is "lying between the legs," inferring between the hip and the toes, while the tibia is the "leg ending" and the fibula is "lying parallel with leg ending."

The organs of the heart and the lung seem to be perceived as essentially the same kind of object, with the difference being that the heart is a "small, roundish heart (lung)," whereas the lung is a "soft heart (lung)." The gallbladder is perceived in terms of the "bile (implying color)," the pancreas is a "spongy loop," the diaphragm is "inside (partition)," and the brains is "head top (crown)." A distinction is made in the case of the liver: the right lobe is perceived as the "liver" but the left lobe is perceived as the "liver's maternal grandmother" and cannot, as in the case of the sheep, be eaten.

There are not many common terms used to describe the "systems" of the body. The circulatory system is perceived of as "blood which flows through the body," the skeletal system is "bones worn by the body" and the muscular system is "muscles worn by the body." There seems to be no names for specific muscles.

F. Some General Health Percepts. Table V contains the literal translations of selected terms relating to health.

Germs are "invisible bugs," disease is "impairer of bodies (placer of impairment on body)," a disease carrier is "one who walks with contagious disease," a

sick person is "one with something (defect) attached," and death is "death: mouths coming into being (a way of talking around the subject)," which might be similar to the Anglo term "passing away."

A healthy person is "one not sick" and immunity is "power to resist." Courtship is "pursuit of marriage" or "drag around (slang)," marriage is "sitting side by side," and reproduction is the "process of adding one to (oneself)."

There is no distinction made between abortion and miscarriage. The term, "floating out of the abdomen," applies to both. There is no general term for growth and development or for the process of aging.

The few other terms which have been explored and are shown on Table V seem to be perceived the same by both the Navajo and the Anglo.

Some Factors Facilitating Change in Navajo Perception. The fact that the Navajo is motivated to using Anglo health and medical services for relief from painful symptoms means that he is frequently exposed to experiences which undoubtedly are forcing changes in his perceptual framework. Each experience, while holding the possibility of accentuating negative percepts resulting from negative interpersonal relationships and cross-cultural breakdowns in communication, holds the potential for the selection, accentuation and fixation of positive percepts. The potential for health education in the hospital and clinic

setting has been explored, basically, by the Phase Two Project. The development and coordination of health education in this setting, to meet short and long-range objectives, will do much to enhance the meaningful changes in Navajo perception.

Levy's recent study on "Some Trends in Navajo Health Behavior (1Z, p. 10)" leads him to conclude that wherever and whenever more public health staff, facilities, and services are made available for use by the Navajo, the use will increase significantly. Since the Division of Indian Health has plans to expand staffs, facilities, and services on the Navajo Reservation in the near future, it can therefore be expected that more Navajos will have more experiences with Anglo health and medicine, which in turn will implement the process of perceptual change.

Another contributing factor has to do with the acculturation process of the Navajo. As the level of education increases and as the changing economy forces changes in the traditional way of life, the traditional perception of the Navajo becomes inadequate and a state of insecurity is produced which lasts until a new adjustment can be made. When this state is reached in his traditional perceptual field related to health and religion, the Navajo in the process of acculturation attempts to seek an understanding of Anglo health and medicine so as to re-establish perceptual security. He is more willing to select percepts under these conditions.

The desire for a more harmonious life on the part of the Navajo makes him receptive to changes in health practices even when he does not perceive the connection between the old practice and the causation of disease. Water sources are improved, home and camp environments are kept clean, sincere attempts are made at producing sterile formulas, and the women prefer to have deliveries in the hospital than at home because it's "safer." Many lives have been saved by "white man's medicine" which otherwise would have been lost, and the status of Anglo medicine has been increasing in the eyes of the hatathli and his people. Accentuation and fixation of these percepts will provide for Poston's selectivity sensitizer process, when new related activities are experiences.

More emphasis on course content in the school health program will help facilitate perceptional adjustment and help change the reasons which motivate the Navajo to seek Anglo medical care (13, p. 16). Children should leave school with an understanding of the "germ theory" and of physical, mental and emotional development. They should have an appreciation of personal health, which includes a knowledge of anatomy and physiology, nutrition, first aid and safety, stimulants and narcotics, periodical medical and dental care, and family life. They should also have an understanding of community health programs and problems, and the health resources available to them as citizens of the community.

An awareness of discussion-decision processes inherent in Navajo decision-making will also facilitate adjustment. The Navajo needs to have as much information as possible about the problem he faces, how it can be resolved and what the results will be, in order to consider it or discuss it adequately. He needs time enough to discuss the pros and cons of the problem with others concerned until all significant factors have been aired and until the decision reached is more or less a consensus of the members. As a patient, he wants to have his problems discussed in privacy and needs the opportunity to express his fears and concerns. He must be allowed adequate recourse to consultation with the members of his family who compose the basic decision-making unit with respect to his welfare. When these conditions have been provided, in the course of the author's numerous experiences with "difficult patients" at Tuba City, the decision made have been invariably constructive ones.

Involvement of the hatathli and other leaders have proven to be effective in greater utilization of resources. In one experience, several field clinics were in danger of being closed because the attendance at them had fallen off. When local leaders were contacted to determine the reasons, it was found that poor locations and poor communications were at fault. The leaders then felt a responsibility to correct the situation, and with their help the flow of communication to the population improved, clinic sites were changed when the previous sites were undesirable, and attendances improved.

As the traditional practices become inadequate, motivation will increase toward utilizing the Anglo practices. The traditional practice of women delivering infants, for example, can be painful, exhaustive, and dangerous (14). It is understandable why the women perceive the Anglo method as "safe."

The work of Vicenti and his cohorts[7] at Tuba City, in improvising or developing Navajo words and phrases to better describe things previously considered inadequate, will have long range significance in changing the perceptions of their people. Their work should be aided and encouraged.

Adapting programs and approaches may be necessary as well as effective, as McDermott and his associates discovered during the course of their work at the Navajo-Cornell Manyfarms Field Research Project (15, p. 202): "It was necessary to devise a wholly new system for such a mundane operation as medical record keeping in order to fit the pattern of the society."

Some Factors Inhibiting Change in Navajo Perception. Many factors exist which tend to create perceptual defenses blocking the adjustments which need to be made.

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[7] Dan C. Vicenti, Mrs. Rosemary J. Goldtooth, and Dennis Parker. The three are Navajo and compose the permanent health education staff at the Service Unit. Mr. Vicenti is the Community Worker (Health) in charge of the section, Mrs. Goldtooth is the Hospital Health Education Aide, and Mr. Parker will become the Community Health Education Aide on July 1, 1962.

One factor which must have some bearing on inhibiting change concerns the nature of health and religion in the respective cultures. The Navajo view health and religion as one and the same, while the Anglo usually distinguishes between the two. When the Navajo's traditional perception of health and medicine becomes inadequate, he must make two adjustments instead of one, if he turns to the Anglo culture: in medicine and in religion. The adjustments to be made in both areas may be extremely difficult.

Cross-cultural barriers to effective communication is another factor. The difficulties of trying to communicate ideas through an unwritten language, which is vastly inadequate in the possession of words and phrases to correspond to the mysterious terminology of Anglo medicine, still continues to be a significant problem.

Fear is another factor: the fear of the spirits of the dead, which lurk in the hospital; fear of surgery, which has a perceptual connotation akin to the butchering of sheep; fear of the disposal methods of the afterbirth and surgically-excised organs, which conceivably could fall into the hands of witches.

Poor human and interpersonal working relationships is another factor. Some patients feel they have to wait too long to be seen, and that they are not accorded respect as individuals when they are seen and treated. Poor relationships between Anglo and Navajo employees create barriers to effective communication and cooperation, and results frequently in the employee utilizing

his influences with patients and community to reinforce fears and negative perceptions. Many instances have been observed when a scheduled field clinic was not held or when an out-patient came in on time for an appointment and was not seen, and more often than not, no attempt was made to explain the cancellations adequately. Traders, missionaries and other Anglo's of the community, whose expectations of Anglo medical care on behalf of their Navajo friends are not supported by what the friends receive, may become very outspoken of their criticism of Anglo medicine to Navajo people.

Lack of adaptive programming is perhaps the most significant factor to be considered, since it is amenable to immediate correction. Many programs are being carried out by the Public Health Service which have not been adapted to meed the needs and interests of the Navajo but which could be without changing the basic intent of the program. The author was involved in two experiences which emphasize this factor.

1. One experience concerned the evaluation of the visual aspects of a new nutrition flip chart on encouraging the use of milk, dried milk in particular, among the Navajo (11). The flip charts featured a series of 17" x 24" multi-colored sheets, using visual and word symbols created by commercial artists to portray the specific health messages. A discussion guide had been prepared for use in conjunction with the flip chart, much in the same manner and style as were the other

flip chart series produced by the Division previously.[6] Health education techniques were employed in the evaluation activity. It was found that when the Navajo could not read English, as is the case with most of the adults in the Tuba City Service Unit, they had to depend on the art work to perceive the purpose of the flip chart. For the most part, the artist depended on the use of the English word to convey the meaning and when this was not effective the meaning was not communicated.

The artwork was supposed to portray the Navajo and certain salient features of his environment. While it was perceived to be Navajo by the non-Indians, the Navajo immediately recognized many features of the illustrations as not being Navajo, which tended to distract their attention from the purpose of the flip chart.

The author concluded that the visual aspects of the flip chart did not contribute to the goals of the Nutrition program, that actual photographs in the Navajo setting would have been far more effective. However, the flip charts were in the final stages of production and could not be revised. Workers who have used the flip charts with the traditional Navajo feel that they

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6 Flip Chart and Discussion Guides had been prepared by Division's Visual Services Section, as aids for programs in Diarrhea, Trachoma and Fly Control, during the Project's Phase One experience. The Navajo Tribe paid for the production of the flip charts, including the one on Milk.

are not effective, therefore they are used infrequently despite the costs involved in their production.

2. The other experience concerned the field testing of the Individual Home Water Storage Units (10) referred to previously in this report. Here also, an adequate pretesting of the program, carried out among the people for whom it is intended, would have brought to light some of the undesirable features of the program which may very well inhibit its utilization in the way proposed by the Division of Indian Health. Again, the program was too far along to incorporate the basic changes indicated.

Conclusions. The Navajo traditional perceptual field relating to health and medicine is dominant, dynamic and culture-bound. There is being introduced into this field the strange and foreign symbolism of another culture: the public health and medical concepts of the Anglo culture. The responsibility for the introduction of these changes in ways to facilitate their most effective adaptation, interpretation, understanding and acceptance on the part of the recipient culture, the Navajo, rests solely with the donor culture, as represented by the United States Public Health Service.

There is evidence to show that much of the responsibility is being carried out effectively through the implementation of staffs and facilities. More Navajos are coming into more frequent

contact with Anglo medicine and, by and large, the Anglo and Indian staffs are trying to do the best work they can under the circumstances. The achievements in reduction of Indian death and disease rates have been phenomenal, in the seven short years since the Public Health Service took over the Indian Health program.

However, as Dr. Shaw pointed out, increasing facilities and staffs alone will not do the job that has to be done. The most meaningful adjustments will be made on the basis of how well the Navajo understand and accept the new changes being introduced, and how well the Anglo staffs can adapt their programs to meet the needs and interests of the Navajo.

From the point of view of the health educator, Navajo perception of Anglo medicine is <u>adequate</u> in terms of the percepts relating to facilities and roles of personnel. Also, the motivation to seek Anglo medicine for symptomatic relief can be reinforced to encourage earlier recognition and treatment of disease symptoms, and can be utilized as a <u>selectivity sensitizer</u> to begin showing the connection between "symptoms" and "causes and effects." The perceptional field is vastly <u>inadequate</u> in the areas of diseases and of <u>anatomical</u> and <u>physiological</u> understandings.

An intensive and extensive educational campaign, both in the schools and in the community, over a long period of time, is necessary before the Navajo individual will be able to perceive Anglo medicine sufficiently well to contribute effectively to the maintenance of his own health.

When this is done, the Public Health Service will have discharged its responsibility to the American people.

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Table I. Literal Translations of Navajo Words and Phrases Used To Describe Selected Public Health Facilities, Equipment, programs and activities. Navajo Health Education Project, P.H.S. Indian Hospital, Tuba City, Arizona. April 16, 1962.

Anglo term	Navajo term[1]	Literal translation
Facilities, Equipment		
Administrative offices	Naaltsoos aχ'ii'ni'gónę	Where papers (letters) are made
Clinical thermometer	'Azanatsihii	Object customarily stuck in mouth
Delivery room	Nda'i'ch'iihii'gónę	Bearing place
Hospital	'Azee'aχ'ii'	(where) medicine is made
Inpatient wards	Baah dahnahaz'áani'naazhjeeh'i'gónę	Where the sick lie
Laboratory	1. Diχ 'adaal'i'ni'gónę	1. Where blood is collected
	2. Na'aχkáahii' gónę	2. Where analyses are made
Latrine, outdoor	Biinoo'o'nda'aχ dahii	Place where one walks into privacy
Lavatory, indoor	Wónę'é'yahanda'aχdahii	Inside private walk inside
Morgue	'iisxiinii bikáˊ 'algish gónę	Cutting-for-cause-of-death place
Out-patient clinic	'Azee'aa'aχ'i'ni' gónę	Where medicine is applied
Out-patient clinic waiting room	'Azee' aa 'adoolniχ bibáˊdana'iistani' gónę	Where one sits awaiting application of medicine

TABLE I CONTINUED

Anglo term	Navajo term	Literal translation
Sanatorium (TB)	1. Jéi adiih bahooghan	1. Home of the disappearing heart (lung)
	2. 'Ajei yilzolii baah dahnahaz'aanii bee'azee'aχ'i'	2. Hospital for those with sick lungs
Stethoscope	1. Akáá naat'aahii	1. Object placed on different parts of the body (moved about)
	2. Bee'iists'áá'i'	2. Object used for listening
Surgical suite	Na'aχgishii' góne	Cutting place
X-raying room	Aghá da'dildlaadi góne	Where light is made to penetrate (one's body)
Programs, Activities		
Blood transfusion	Diχ yiih Nakásh	Replenishing (refilling) with blood
Field clinics (held periodically)	1. 'Á'áda'a'tsih	1. (bodily) punctures given (injections)
	2. 'Azee'aá'aχ'i'banahoo'aa'	2. Where medicine is applied periodically
Home visiting (PHN)	Hootah 'áda'	Going from home to home informally
Individual Home Water Storage Unit	To'izhjeeh ndahaniih	Water barrel sale

TABLE I CONTINUED

Anglo term	Navajo term	Literal translation
Intra-venous feeding	1. Ch'iyaan biɣ'á'i'iiti	1. Food entering the body with rope-like object
	2. Ch'iyaan Bitoo biɣ'a'i'iiti'	2. Food juice entering the body with rope-like object
Shots (injections)	'Á'áda'a'tsih	(Bodily) punctures given

[1] Where two terms are listed, the first is the term commonly used; the second is the term being introduced by the Navajo health education personnel into the communication processes.

Table II. Literal translations of Navajo words and phrases used to describe selected public health personnel positions. Navajo Health Education Project, P.H.S. Indian Hospital, Tuba City, Arizona. April 16, 1962.

Anglo term	Navajo term[1]	Literal translation
Anesthetist	'Azee'bee'iłgashii'aa'ił'i'ni	Applier of sleep-producer
Clerk-typist	Naaltsoos iił'inii	Paper (letter) maker
Clinical Social Worker	'Áká'aná'ałwóji binanish 'ayósini	One who makes helping people her (his) work
Community worker (health)	'Ats'iis ba'aha' yaaji yina' niłtini	Teacher of care of the body
Dental officer (dentist)	'Azee'iił'ini' awoo' aneił'i'ni	Medicine maker who rebuilds teeth
Hospital Health Education Aide	1. 'Asdzáni 'awéets'aal neiniihii	1. Woman who issues layettes
	2. 'Asdzáni ats'iis bá'ahayaaji yinaniłtini 'azee' ał'i' gone	2. Woman who teaches care of the body (in the hospital)
Interpreter	'Áta' halni'i'	Talker in-between
Medical officer (physician)	'Azee'iił'ini'	Medicine maker
Medical Officer in Charge (MOC)	'Azee'iił'ini'alaahji bihołniihigii	Medicine maker who is first in authority

TABLE II CONTINUED

Anglo term	Navajo term	Literal translation
Medical record librarian[2]	1. 2. Naaltsoos bee'éé'dahozini bilhaz'aa'gónę alaahji biholnihigii	1. 2. One in charge of where paper (documents) are kept
Nurse (head or director)	'Azee'ndeikáahii binanit'a'i'	Leader of medicine carriers
Nurse (staff)	'Azee'neiká'hii	Carrier of medicine (with implication that the medicine is on a tray or platter-like object
Nursing assistants ("blue girl")	'Asdzáni bi'éé' dadootl'izh 'azee'a'i'gónę ndaaʔnishigii	Blue-appareled women who work in the hospital
Obstetrician	'Azee'iiʔiini'áchi ye'eniihii	Medicine makes who knows about child birth
Opthalmologist (who attends eye clinics at Tuba City)	'Azee'iiʔ' ini'anáá' yinéeʔ'ii'nigii	Medicine maker who looks at eyes
Opthalmologist (to whom patients are sent away for treatment	'Azee'iiʔ'ini'anáájí ye'eniihii	Medicine maker who specializes in eyes
Orthopedist (who attends Tuba crippled children clinics)	Ndaniʔhódigii bé'azee'iiʔ'ini'	The cripples' medicine maker
Orthopedist (to whom patients are sent away for treatment)	'Azee'iiʔ'ini'ats'iis ts'inji ye'eniihii	Medicine maker who knows about bones
Otologist	'Azee'iiʔ'ini'ajaaji ye'eniihii	Medicine maker who specializes in ears

TABLE II CONTINUED

Anglo term	Navajo term	Literal translation
Pediatrician	A'chini be'azee'ii'ini	Children's medicine maker
Pharmacist	'Azee' neiniihii	Giver of medicine
Public Health Nurse	'Azee' neikahi nootahgóó náaghahigii	Carrier of medicine who visits homes
Receptionist (at out-patient clinic)	'Azhi'ádah'e'í'	Writer of names
Sanitarian	1. To' ya'adaha'yaani	1. Caretaker of water
	2. Haa'asiidi	2. Inspector
Surgeon	'Azee'ii'ini'na'a'gishigii	Medicine maker who cuts
X-ray technician	'Aghahdadi'dlaadi	One who directs light through (the body)

[1] Where two terms are listed, the first is the term commonly used; the second is the term being introduced by the Navajo health education personnel into the communication processes.

[2] No term exists for this position. Navajo term #2 is the term being introduced.

Table III. Literal translations of Navajo words and phrases used to describe selected diseases. Navajo Health Education Project, P.H.S. Indian Hospital, Tuba City, Arizona. April 16, 1962.

Anglo term	Navajo term[1]	Literal translation
Appendicitis	'Ach'ii bits'áni'nisá	Growth from an intestine
Arthritis	'Ahadadit'áágóóyánit'iinii	That which affects joints
Chickenpox	1. 'Aa'hádá'ájeeh	1. Those which come to the surface (of one's body)
	2. 'Aa'hada'ajeehgo tó'da'i'sooʒigii	2. Those which come to the surface (of one's body) in blister form
Diabetes	1. 'Ashiih ʒikán dil biihazlii	1. Sugar became present in the blood
	2. 'Ashiih ʒikán 'i'nilyi	2. Sugar killing (one)
Diarrhea	1. 'Atsahoodinih	1. Stomach pain
	2. 'Achaan 'aghádaana'igii	2. Feces which flow through (in water form)
Diphtheria	1. 'Adáyihodinih	1. Throat pain
	2. 'Adáyi dáhodinicha'	2. Swelling blockage of throat
Gall bladder disease	Atʒ'izh badahz'aa	Something (defect) on the bile

TABLE III CONTINUED

Anglo term	Navajo term	Literal translation
Impetigo	1. Łóód	1. Sore
	2. Na'atłeeh	2. Contagious
Mastoiditis	1. 'Ajaayihdéé' his halin	1. Pus running out of ear(s)
	2. 'Ajaat'áástáán biyi' his hazlii	2. Pus forming within the mastoid
Measles	1. 'Aa' há'ájeeh	1. Come to the surface (skin)
	2. Łichiigo 'aahádajeeh 'igii	2. Red spots which appear on one
Pneumonia	1. 'Ajéi yilzólii bii yiłk'aaz	1. Cold (air) entered the lungs
	2. 'Ajéi yilzólii biih nidideeschii' dóó nicháád	2. Interior inflammation and swelling of the lung(s)
Trachoma	1. 'Anáá baah dahaz'aa	1. Something (defect) attached to the eye
	2. 'Anáá' wozhi'	2. Eye tickle
Tuberculosis	1. 'Ajei' adiih	1. Disappearing heart (lung)
	2. 'Ajei yel zpli ba dah hazaa	2. Defect of disappearing heart (lung)

TABLE III CONTINUED

Anglo term	Navajo term	Literal translation
Whooping cough	1. Dikos Nts' aa' igii	1. Big cough
	2. Dikos ntsáa'ánа'ii'shiXigii	2. Big cough which halts the breath

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1 Where two terms are listed, the first is the term commonly used; the second is the term being introduced by the Navajo health education personnel into the communication processes.

Table IV. Literal translations of Navajo words and phrases used to describe selected anatomical and physiological bones, organs, and systems. Navajo Health Education Project, P. H. S. Indian Hospital, Tuba City, Arizona. April 16, 1962

Anglo term	Navajo terms	Literal translation
Bones		
Femur	'Ajaa bita'sitáni	Lying between the legs (between the hip and the toes)
Fibula	'Ajastis bil ahaah ni'a hi	Lying parallel with leg ending
Humerus	'Agaan ta' i	Between arm (infers between shoulder and hand)
Ilium	'Akai	Hip
Radius	'Agaalóó	Arm point
Ribs	'Atsaa	(Infers) inside body
Spinal column	'Iishghaan	Top main support (in reference to sheep or four-legged animals)
Tibia	'Ajastis	Leg ending
Ulna	'Agaalóó	Arm point
Organs		
Brain	'Atsiighaa'	Head top (crown)
Diaphragm	'Achashjish	Inside (partition)

TABLE IV CONTINUED

Anglo term	Navajo terms	Literal translation
Ears	'Ajaa'	Ear (s)
Eyes	'Anáá	Eye (s)
Gallbladder	1. 'At'izh	1. Bile (implying color)
	2. 'At'izh Bizis	2. Bile container 9(sac)
Heart	'Ajei dishjool	Small, roundish heart (lung)
Intestines, large	'Ach'iidiil	Large (breadth) intestine
Intestines, small	'Ach'iidoot'izh	Green (blue) intestine
Larynx	'Azool dadijool	Where small, roundish lump is on trachea
Liver	'Azid	Liver
Liver, left lobe	'Azid bichó'ho	Liver's maternal grandmother
Lungs	'Ajeijilzolii	Soft heart (lung)
Nose	'Achiih	Nose
Pancreas	'Alohk'é'	Spongy loop
Stomach	'Abid	Stomach (container implied)
Teeth	'Agho'	Teeth
Tongue	'Atsoo	Tongue
Trachea	'Azoo'	Trachea (implying breather)

TABLE IV CONTINUED

Anglo terms	Navajo term	Literal translation
Systems		
Circulatory	'Ats'iis tah diɣ ndaazlinigii	Blood which flows through the body
*Gastro-intestinal	Ch'iyaan banahazt'i'	Food tract
*Lymphatic	'Akaaz	Tonsils
Muscular	'Adoh 'ats'iis yee' haadit'e	Muscles worn by the body
*Nervous	'Ats'óóz 'atsiighaa bits'áadóó ndaazt'i'igii	Fibrous network from the brain
Respiratory	Be' nididzi'igi	Used for breathing
Reproductive (for female only)	'Ni'iichii biɣ haz'aagi	Organs (for birth)
Skeletal	'Ats'iis ts'in yee' haadit'e'	Bones worn by the body

1 Where two terms are listed, the first is the term commonly used; the second is the term being introduced by the Navajo health education personnel into the communication processes.

* Terms exist, but are not commonly used.

Table V. Literal translation of Navajo words and phrases used to describe selected general health terms. Navajo Health Education Project, P.H.S. Indian Hospital, Tuba City, Arizona. April 16, 1962.

Anglo term	Navajo term	Literal translation
Abortion (also miscarriage)	'Atsa' ha'á'ééɣ	Floating out of the abdomen
Adulthood	T' aa' hooyaadi i'lii	Act of being mature (wise)
Aged	'Ooti	Aged
Birth	'Achi'	Birth
Childhood	'Aɣchini 'i'lii	Act of being a child
Courtship	'Adoyeh bihwiit'áá, or	Pursuit of marriage, or
	'Adoyeh bikáʼiyiɣ, or	pursuit of marriage, or
	Na' aɣ shood (slang)	drag around (slang)
Death	'Azéé' nihwiilééh (anné)	Death; mouths coming into being (a way of talking around subject)
Disease	'Aadah hóyóóɣ 'aalii	Impairer of bodies (placer of impairment on body)
Disease carrier	Naalnihyiɣnaaghaáhi	One who walks with contagious disease
Germs	Ch'osh doo yit'iinii	Invisible bug
Growth and development	'Aniyeeh	Growth or growing. No common term for development

TABLE V CONTINUED

Anglo term	Navajo term[1]	Literal translation
Healthy person	1. Dóó baaht' é' hii	1. One not sick
	2. Chanáh nilinii	2. Buoyant one
Immunity	1. Doo 'ihodéé'niinii	1. Power to resist
	2. Bee adiyin	2. Endowed with power to resist
Marriage	'Ahé'éské'	Sitting side by side
Pregnancy	'Ootsá	Pregnancy
Reproduction	'Adee'i'yoo'deelii	Process of adding one to (oneself)
Sick person	Baah dahaz'aanii	One with something (defect) attached
"Western medicine"	Bilagáana bé 'azee'	White man's medicine

[1] Where two terms are listed, the first is the term commonly used; the second is the term being introduced by the Navajo health education personnel into the communication processes.

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